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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,592	07/23/2003	Thomas Kammerdiener	66376-328-7	7533

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EXAMINER

CHANG, CHING

ART UNIT PAPER NUMBER

3748

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/624,592	Applicant(s) KAMMERDIENER ET AL.	
	Examiner Ching Chang	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is in response to the amendment filed on July 22, 2004. New claims 31-34 are added as requested.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 31-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

More specifically, " which is greater than a closing force of a valve spring of the lifting valve " in claims 31-34, and " controlling the opening lifting velocity of the lifting valve by modulating the pressure within the pressure chamber, wherein the pressure chamber is pressurized with the high pressure level and the middle pressure level alternately " in claim 34 are new matter.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. ***Claims 28 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Stutzenberger et al. (US Patent 5,154,143).***

Stutzenberger discloses a method of operating an internal combustion engine with a variable valve train (See Fig. 1) for a cam-actuated lifting valve (11, 12), including the steps of : providing a hydraulic high pressure level for a hydraulic activating force which is greater than a closing force of a valve spring of the lifting valve (See Col. 3, line 27 through Col. 4, line 14), hydraulically activating the lifting valve, and providing an additional hydraulic lift during a mechanical lifting phase performed by the cam (6) (See Col. 4, line 27, through Col. 5, line 11).

5. ***Claims 29 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujiyoshi et al. (US Patent 4,873,949).***

Fujiyoshi discloses a method of operating an internal combustion engine with a valve train (See Fig. 1) for a cam-actuated lifting valve (5), including the steps of : providing a hydraulic high pressure level for a hydraulic activating force (through 61) which is greater than a closing force of a valve spring of the lifting valve, and

hydraulically reopening the lifting valve at least once within a working cycle after a mechanical lifting phase performed by the cam (9) has ceased (See Col. 6, line 16 through Col. 10, line 62).

6. *Claims 30 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Kruger (US Patent 5,193,496).*

Kruger discloses a method of operating an internal combustion engine with a valve train (See Fig. 1) for a cam-actuated lifting valve (6), including the steps of : providing a hydraulic high pressure level for a hydraulic activating force which is greater than a closing force of a valve spring of the lifting valve, and alternatingly mechanically and hydraulically determining lifts of subsequent charge exchange processes (See Col. 3, line 12 through Col. 5, line 68).

7. *Claims 28 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Kruger (US Patent 5,451,029).*

Kruger discloses a method of operating an internal combustion engine with a variable valve train (See Fig. 1) for a cam-actuated lifting valve (1), including the steps of : providing a hydraulic high pressure level for a hydraulic activating force which is greater than a closing force of a valve spring of the lifting valve, hydraulically activating the lifting valve, and providing an additional hydraulic lift (74) during a mechanical lifting phase performed by the cam (2) (See Col. 5, line 17, through Col. 6, line 6).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. ***Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rembold et al. (US Patent 5,113,811) in view of Vanderpoel et al. (US Patent 6,474,277).***

Rembold discloses a method of operating an internal combustion engine with a valve trains (See Fig. 1) for a cam-actuated valve (1), including the steps of : providing a hydraulic high pressure level for a hydraulic activating force which is greater than a closing force of a valve spring (8) of the lifting valve, providing a middle pressure level beyond the high pressure level, hydraulically lifting the lifting valve by pressurizing a pressure chamber (18) with the high pressure level. (See Col. 5, line 29 through Col. 7, line 2).

Rembold discloses the invention as recited above, however, fails to disclose the hydraulic pressure force within the pressure chamber being adjusted to control the valve opening lifting velocity.

The patent to Vanderpoel on the other hand, teaches that it is conventional in the engine valve seating velocity control art, to have adjusted the hydraulic pressure force

in a pressure chamber (740), in order to control an engine valve (600) seating velocity (See Col. 9, line 1 through Col. 10, line 67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have adjusted the hydraulic pressure force within a hydraulic pressure chamber as taught by Vanderpoel in the Rembold method, since the use thereof would provide an improved hydraulic lifting method to actuate an engine valve.

Response to Arguments

10. Applicant's arguments filed on July 22, 2004 have been fully considered but they are not persuasive.

Specifically, the Attorney's contention of " ... Fujiyoshi et al., disclose only Lost Motion Systems.....It is not possible to reopen the lifting valve after a mechanical lifting phase performed by the cam has ceased. " (See Pages 2-3, Attorney's REMARKS), the Examiner disagrees. As a matter of fact, the Examiner deems the teaching in Fujioshi reference (See Col. 6, line 15 through Col. 10, line 62) does teach that it is possible to reopen the lifting valve after a mechanical lifting phase performed by the cam has ceased.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ching Chang whose telephone number is (703)306-3478. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

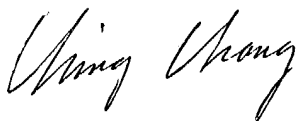
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703)308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Patent Examiner



Ching Chang



THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700